What is claimed is:

1.   In a switched communication network having an optical layer for photonic transport of data, a method for handling a failure of an established circuit to avoid end-to-end tear down and re-establishment of said established circuit, said method

5   comprising the steps of:

detecting said failure of said established circuit between a first optical node and a second optical node of said established circuit;

reporting said failure of said established circuit to a control optical node in said optical layer by one of said first optical node and said second optical node; and

10   with said control optical node initiating restoration of said established circuit between said first optical node and said second optical node of said established circuit.

2.   The method of claim 1, further comprising the step of recording a number of said

15   failures over a period of time to determine performance metrics of said switched communication network.

3.   The method of claim 1, wherein said failure concerns a communication link coupled to said first optical node and to said second optical node.

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4.   The method of claim 3, wherein said communication link comprises a trunk.

5.   The method of claim 4, wherein said communication link comprises a channel of said trunk.

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6.   The method of claim 1, further comprising the step of regenerating said established circuit from a source optical node of said established circuit where said restoration of said established circuit between said first optical node and said second optical node fail to restore said established circuit.

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7.   The method of claim 4, further comprising the step of routing traffic between said first optical node and said second optical node through a said restored trunk.

8.   The method of claim 1 further comprising the step of generating a revised path trace to indicate said restoration of said established circuit.

5   9.   The method of claim 1, wherein said first optical node is said control optical node.

10.   The method of claim 1, wherein said second optical node is said control optical node.

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11. The method of claim 1, wherein said established circuit comprises a label switched path (LSP).

12.   The method of claim 1, wherein said optical nodes comprise optical cross
15   connect switches.

13.   A method of restoring an established circuit in a communication network, said method comprising the steps of:

        detecting a failed trunk and/or channel between a first optical node and a
20   second optical node of said communication network wherein said detection is made by one of said first optical node and/or said second optical node wherein one of the nodes is a control node;

        reporting said detected failed trunk to the control optical node ; and

        at said control optical node selecting an alternative trunk coupled to said
25   first optical node and said second optical node to restore said established circuit.

14.   The method of claim 13, further comprising the step of at said control optical node routing network traffic over said alternative trunk.

30   15.   The method of claim 13, wherein said communication network includes a network topology database to track network topology and said method further comprising the step of, revising a network topology database to indicate the selection of said alternative trunk.

16. The method of claim 15, wherein said control optical node comprises one of the first optical node and the second optical node.

5   17. The method of claim 13, wherein said first optical node and said second optical node comprise an optical cross connect switch.

18. The method of claim 13, wherein said alternative trunk has a bandwidth capacity equivalent to said failed trunk.

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19. The method of claim 13, wherein said alternative trunk has a bandwidth capacity that exceeds said failed trunk.

20. The method of claim 13, wherein said selection of said alternative trunk assigns a
15   label switched path to said alternative trunk.

21. A computer readable medium holding computer executable instruction to perform a method of handling a failure of an established optical circuit in a switched communication network having an optical layer for photonic transport of data, to avoid
20 tear down and re-establishment of said established circuit, said method comprising the steps of:

detecting said failure of said established circuit between a first optical node and a second optical node of said established circuit;

reporting said failure of said established circuit to a control optical node
25 in said optical layer by one of said first optical node, and said second optical node; and

with said control optical switch initiating restoration of said established circuit between said first optical node and said second optical node of said established circuit.

30 22. The computer readable medium of claim 21, further comprising the step of recording a number of said failures over a period of this to determine performance metrics of said switched communication network.

23.   The computer readable medium of claim 21, wherein said failure concerns a communication link coupled to said first optical node and to said second optical node.

24.   The computer readable medium of claim 23, wherein said communication link
5   comprises a trunk.

25.   The computer readable medium of claim 24, wherein said communication link comprises a channel of said trunk.

10   26.   The computer readable medium of claim 21, further comprising the step of regenerating said established circuit from a source optical node of said established circuit where said restoration of said established circuit between said first optical node and said second optical node fail to restore.

15   27.   The computer readable medium of claim 24, further comprising the step of routing traffic between said first optical node and said second optical node through a said restored trunk.

28.   The computer readable medium of claim 21 further comprising the step of
20   generating a revised path trace to indicate said restoration of said established circuit.

29.   The computer readable medium of claim 21, wherein said first optical node is said control optical node.

25   30.   The computer readable medium of claim 21, wherein said second optical node is said control optical node.

31.   The computer readable medium of claim 21, wherein said established circuit comprises a label switched path (LSP).